



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#9/a
R. H. H.
2-18-04

Applicant: John K. Hewitt
Serial No.: 10/027,225
Filed: December 26, 2001
For: Apparatus And Method For Protection Against Appliance
Leaking
Group Art Unit: 2632
Examiner: Previl, D.
Attorney's Docket No.: N8097
Customer No.: 23456

Mail Stop Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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RESPONSE AND AMENDMENT

Dear Sir:

In response to the Office Action mailed February 25, 2003, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Pursuant to 37 CFR § 1.36(a), Applicant kindly requests a three month extension of time. Enclosed is a check for \$465.00 to cover said extension.

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Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A water protection system apparatus for detecting and stopping a flow of water, comprising:

a power supply for generating ~~an~~ a direct current electrical signal;

a water ionization switch connected to the power supply, wherein the ionization switch selectively conducts the direct current electrical signal when exposed to water,

the water ionization switch including an initially dry non-conductive crystallized compound constrained only by the container,⁹ wherein the compound ionizes to form an electrolyte when combined with water; and

a controlled valve assembly connected to the power supply and the ionization switch, wherein the valve assembly stops the flow of water in response to a change in the direct current electrical signal.

2. (Previously Presented) The apparatus of claim 1, wherein the electrical signal utilizes a voltage of less than 12 volts as a safety feature for reducing electrical shock hazards.

3. (Previously Presented) The apparatus of claim 1, the power supply including a main power supply and a backup battery which allows operation of the system during periods of inadequate power from the main power supply.

4. (Previously Presented) The apparatus of claim 1, said water ionization switch including:

a container with openings to allow for water entry;

a first and second electrodes located within the container and separated by the compound.

5. (Previously Presented) The apparatus of claim 1, said controlled valve assembly including:

an electric relay connected to the sensor;

a valve actuator connected to the relay;

a reset switch connected between the sensor and the relay.

6. (Previously Presented) The apparatus of claim 5, said controlled valve assembly further including a reset button connected to said reset switch.

7. (Previously Presented) The apparatus of claim 1, further comprising:

a condition indicator operatively connected to said ionization switch and said power supply for indicating the operation of said valve assembly.

8. (Previously Presented) The apparatus of claim 7, wherein said condition indicator includes a light source.

9. (Currently Amended) A water ionization switch for detecting the presence of water, comprising:

a container with an interior, the container including at least one cover defining openings allowing water penetration of the interior of the container;

a first electrode contained within the interior;

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a second electrode contained within the interior and spaced from the first electrode such that the electrodes do not make direct electrical contact; and

an electrolyte contained within said interior, and constrained only by the container, the ~~amount~~ of electrolyte and volume of the interior proportionally related such that the introduction of water into the interior of the container results in the formation of a conducting aqueous solution between the electrodes.

10. (Previously Presented) The water ionization switch of claim 9, the container including a two-inch diameter housing manufactured from a non-conductive material.

11. (Previously Presented) The water ionization switch of claim 9, the container shaped in a configuration selected from a configuration group including round, square, rectangular, triangular, ovoid, and spherical.
 12. (Previously Presented) The water ionization switch of claim 9, the opening including a woven material mesh to allow for water entry.
 13. (Previously Presented) The water ionization switch of claim 9, the electrodes mounted through a side of the container.
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D.H. 14. (Previously Presented) The water ionization switch of claim 9, wherein a moisture level of approximately 40% of the mass of the electrolyte is required to form the conductive solution.
 15. (Previously Presented) The water ionization switch of claim 9, wherein the electrolyte is non-conductive while dry.
 16. (Previously Presented) The water ionization switch of claim 9, wherein the electrolyte includes sodium chloride.
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REMARKS/ARGUMENTS

Claims 1-16 remain in this application. Claim 1 has been amended.

Claims 1-16 have been rejected under 35 U.S.C. § 112 as being indefinite.

Claims 1 and 9 have been amended to clarify the antecedent basis for the terms as noted by the examiner. Therefore, Applicant respectfully request reconsideration and withdrawal of this rejection.

Claims 1-5 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Uhlig in view of Brown. Claims 6-8 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Uhlig in view of Brown and in further view of Garth. Claims 9-16 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Uhlig

Applicant respectfully notes the differences between Uhlig, Brown, Garth, and the present application. Uhlig teaches a high voltage AC system with minimal current flow not a low voltage DC system with high current flow for operating a pump. As taught by Uhlig, a 120V power supply is presented to an 8 to 4 winding transformer with a high impedance sensor wired in line with a resonator built into the transformer windings. Note that in this manner, Uhlig teaches a 2 to 1 ratio in the windings to give a 60 VAC secondary voltage. This is a dangerous voltage level considering the wet environment that the user will be exposed to. The AC system is dangerous due to combination of this wet environment with the high current that is available through that system. This high voltage is necessary because of the types

of sensor taught by Uhlig. In the sensor, Uhlig teaches the use of an internal cellulose fiber spacer that is impregnated with salt. When the salt gets wet, it forms a mild electrolyte to make the cellulose body conductive. This fails to recognize the advantage that may be achieved with an electrolyte because the cellulose fiber spacer adds to the resistance of the Uhlig device. This is why Uhlig must use such a high (60 V) voltage to overcome this high resistance of their sensor.

In contrast to Uhlig, the present invention teaches the use of a high concentration of electrolyte obtained by using an external containment device such that the internal contacts are directly in contact with a free electrolyte for an extremely low resistance switch. Thus, the present invention is not based on contacts separated by the high impedance cellulose fibers taught by Uhlig and Uhlig fails to anticipate the advantages of the present device.

Brown and Garth recognize that a low voltage should be used for safety reasons, but both fail to use a direct switch and fall back on the teachings of the prior art to use a sensor for detecting the water and then relying on a relay for the actual power flow for the valves. In contrast to Brown and Garth, the present invention does not have to use a separate sensor, because the applicant has figured out how to directly use an electrolyte switch for the high power requirements of the valves without requiring either the high alternating current voltage of Uhlig or the separate sensor of Brown or Garth.

Applicant respectfully notes that Uhlig and Brown teach away from each other because Uhlig teaches an alternating current system and Brown teaches a direct current system.

Furthermore, applicant respectfully notes that even if Uhlig and Brown were combined, the result would still be a high resistance sensor because both Uhlig (col. 2, lines 27-38) and Brown (col. 2, lines 41-54) teach the use of the cellulose or porous material inside the moisture sensor. Applicant respectfully notes that the present invention does not require this porous material and that the claims recite this by noting that the electrolyte is "constrained only by the container" such that no internal porous material is used or is necessary.

These differences recite limitations not found in the prior art and provide a new method for sensing the water and providing a power switch for controlling the valves. Thus, the invention is not found, taught, or suggested by the limited teachings of the prior art. Therefore, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Applicant has commented on some of the distinctions between the cited references and the claims to facilitate a better understanding of the present invention. This discussion is not exhaustive of the facets of the invention, and Applicant hereby reserves the right to present additional distinctions as appropriate. Furthermore, while these remarks may employ shortened, more specific, or variant descriptions of some of the claim language, Applicant respectfully notes that these remarks are not to be used to create implied

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limitations in the claims and only the actual wording of the claims should be considered against these references.

The Commissioner is authorized to charge any deficiency or credit any overpayment associated with the filing of this Amendment and Response to Deposit Account 23-0035.

Respectfully submitted,

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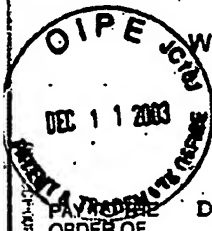
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on August 25, 2003.

Phillip E. Walker.

Signature
Registration Number 52,336

8/25/03
Date



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Director of US Patent & Trademark Office

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Operating Act

The following papers were received in the U.S. Patent and Trademark Office:

Applicant: John K. Hewitt, et al
Atty. Docket #: N8097
Customer No. 23456

Serial No.: 10/027.225

Filed: December 26, 2001

Title of Invention: Apparatus and Method for Protection Against Appliance Leaking

465.00

1. Response and Amendment
2. Extension Fee - Check in the amount of \$465.00
3. Certificate of Mailing
4. Return Postcard

I.C. Waddey, Jr.

Date Mailed: August 25, 2003